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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHONG SENG CHENG¹

Appeal 2008-006002
Application 09/803,173
Technology Center 2100

Decided: November 20, 2009

Before HOWARD B. BLANKENSHIP, JEAN R. HOMERE, and
JAY P. LUCAS, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ According to the scanned image file of the application, a Rule 48 petition was filed on May 20, 2004, requesting that another inventor be added. A decision on the petition is not apparent in the application file. In any event, the present USPTO database entry reflects a single named inventor, Chong Seng Cheng, for this application.

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 22-30, which are all the claims remaining in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Invention

A portable data storage device (10) (Fig. 1) includes a universal serial bus (USB) connector (or plug) (1) and an interface device (2) coupled to the USB connector. The portable data storage device also includes a memory control device (3) and a non-volatile solid-state (flash) memory (4). The memory control device controls the flow of data from the memory to the USB connector. Abstract.

Representative Claim

22. A unitary portable data storage device which can be directly plugged into a universal serial bus (USB) socket of a computer and which is operative to function as an alternative to a magnetic disk or compact disk (CD), and which is capable of storing software for installation to the computer or of receiving and storing user's data present in the computer, the unitary portable data storage device comprising:

a USB plug integrated into the unitary portable data storage device without an intervening cable capable of coupling the unitary portable data storage device directly to a USB socket on a computer;

a single interface, said interface allowing the unitary portable data storage device to communicate via the USB protocol and being coupled to the USB plug;

a non-volatile solid-state memory, said memory being non-removable from the unitary portable data storage device and having sufficient capacity to enable the unitary portable data storage device to serve as an alternative to a magnetic disk or CD; and

a memory controller, the memory controller being coupled between the interface and the memory to control the flow of data between the memory and the USB plug in a manner to enable the unitary portable data storage device to serve as an alternative to a magnetic disk or CD.

Prior Art

Miller	6,038,320	Mar. 14, 2000
Jha	6,407,949 B1	Jun. 18, 2002
Gilbert	6,457,099 B1	Sep. 24, 2002
Margalit	6,748,541 B1	Jun. 8, 2004
Kondo	6,786,417 B1	Sep. 7, 2004
Cheng	7,039,759 B2	May 2, 2006

Examiner's Rejections

Claims 22-29 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 22-24 and 26-28 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Miller.

Claims 22-24 and 26-28 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gilbert.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller and Kondo.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gilbert and Kondo.

Claims 29 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Margalit and Jha.

The Examiner entered a new ground of rejection in the Answer against claim 22 for nonstatutory obviousness-type double patenting. The Examiner expressly withdrew the rejection in view of a terminal disclaimer filed with the Reply Brief (*see* Advisory Action mailed Oct. 29, 2007).

PRINCIPLES OF LAW -- WRITTEN DESCRIPTION

To comply with the “written description” requirement of 35 U.S.C. § 112, first paragraph, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the “written description” inquiry, whatever is now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991).

ANALYSIS -- WRITTEN DESCRIPTION

Claims 22-29 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.² We will consider the four different bases for the rejection, in regard to language that appears in claim 22, the sole independent claim on appeal.

² The Examiner does not indicate why claim 30, which incorporates the limitations of base claim 22, is not also rejected.

(1) a USB plug integrated into the unitary portable data storage device *without an intervening cable* capable of coupling the unitary portable data storage device *directly* to a USB socket on a computer

The Examiner does not appear to allege that the written description states that the data storage device requires an intervening cable between the device and a USB socket on the computer, such that the device cannot couple directly to the socket. The lack of discussion or depiction of an intervening cable in the disclosure would appear to provide clear support for the presently claimed negative (“without an intervening cable”) and positive (“directly”) limitations.

However, as the Examiner notes, the declaration provided by Professor Kim (“Kim Declaration”) seems to support the view that the disclosure described a USB type “B” socket that would require, under the USB standard, an intervening cable to connect to a computer’s type “A” socket. The Kim Declaration at page 5, paragraph 19 refers to the USB interface device 2, in instant Figure 1, as an interface controller that was “typically” proximately connected to a USB “B”-type socket rather than a USB “A”-type plug. Professor Kim thus considers, as stated in the same paragraph 19, that such an approach of eliminating the need of a “B”-type socket and an intervening cable was “very innovative.” As the Examiner suggests, it seems that the disclosure would have drawn attention to an innovative arrangement that used an existing component in a new way.

However, the Kim Declaration also states, unequivocally, that the USB plug 1 (instant Figure 1) would only be an “A”-type plug, in view of

the USB Specification and Appellant's disclosure. Page 5, ¶ 17. Professor Kim also states that the USB Specification "explicitly prohibited" an intervening cable between an "A"-type plug and an "A"-type socket. *Id.* ¶ 18.

We have considered the Examiner's concerns and Appellant's response. In light of Appellant's disclosure and Appellant's supporting declaration, we are persuaded that the first aspect of claim 22 that is in controversy finds adequate written description support as required by § 112, first paragraph.

(2) a USB plug *integrated into the unitary* portable data storage device

(3) said [non-volatile solid-state] memory being *non-removable* from the unitary portable data storage device
. . . .

The Kim Declaration (pages 6-7, ¶¶ 21-24, 27-31) deals specifically with why an artisan would have understood aspects (2) and (3) to be inherent in the disclosure, with citations to that disclosure in support of the opinion. Further, the declaration by Mr. John Hyde ("Hyde Declaration") at page 10, ¶ 22 supports the view that the electronics shown in Figure 1 of the disclosure would be expected to be mounted on a single printed circuit board.

We have considered the Examiner's position and Appellant's response, and find Appellant's arguments and evidence persuasive to the

extent that adequate written description support exists for the second and third aspects.

(4) [the non-volatile solid-state memory] *having sufficient capacity to enable the unitary portable data storage device to serve as an alternative to a magnetic disk or CD*

Appellant's Specification teaches that conventional data storage devices generally fell into two categories: solid-state memory devices (such as ROM and RAM) that were not intended to be removed from a computer; and surface based data storage devices such as magnetic disks and CD ROMs. The non-removable solid-state memory devices lacked portability. The surface based data storage devices required a mechanical drive mechanism, and were thus bulky and delicate due to the moving parts. *See* Spec. 1:6-22.

An advantage of the invention is that by providing a portable data storage device comprising a coupling device with an interface device, memory control device and a non-volatile solid-state memory device, it is possible to provide a portable data storage device which may be coupled to a computer having a serial bus port and which does not include moving parts or require a mechanical drive mechanism to read the data from the data storage device.

Spec. 2:6-11.

An advantage of the device 10 described above is that it provides a portable data storage device for a computer which does not require a mechanical operated reading/writing device. In addition, the device 10 has no moving parts. This enables to data storage device 10 to be more compact than conventional portable data storage devices.

Spec. 9:5-9.

Appellant's disclosure thus contrasts the present invention with the prior art storage devices such as magnetic disks and CD ROMs by the present invention's portability and lack of moving parts.

In light of the disclosure, the claim 22 recitation with respect to "capacity" of solid-state memory does not require some minimum amount of memory. The "capacity" can refer to data transfer rate, with "sufficient" capacity met by the device being coupled to a computer having a serial bus port (e.g., USB interface), being able to transfer data into and out of memory external to the computer, and thus serving as an alternative to a magnetic disk or CD without the requirement of moving parts or a fixed, non-portable memory storage device. Moreover, we do not see why the "capacity," if interpreted to refer to an amount of memory, requires more than a single byte (or bit) of memory, in light of the teachings of the Specification. Such a non-volatile solid-state memory would serve as an alternative to a magnetic disk or CD, being a repository for data and yet being removable from the computer and having no moving parts.

If claim 22 were to specify that the "capacity" refers to some minimum amount of memory by a number such as 1.44 Mb, we would tend to agree with the Examiner that the subject matter is not supported by the disclosure. We note, however, that our interpretation of the language in controversy may differ from that of Appellant, who uses a phrase ("storage capacity") in the briefs that does not appear in the instant claims. In any event, although Appellant appears to suggest that "capacity" might refer to

some minimum amount of memory, Appellant also appears to be careful not to allege whatever that minimum amount (or number) might be.³

In view of the foregoing, we do not sustain the § 112, first paragraph rejection of claims 22-29.

FINDINGS OF FACT

Miller

Miller describes a computer security key 40 (Fig. 3) having a USB plug 48 that plugs into a computer USB port. The key contains a controller 42 and flash memory 46. Col. 2, l. 59 - col. 3, l. 3.

Gilbert

Gilbert describes a programmable dedication application card (PDAC) 100 (Figs. 1, 2) that plugs into a host computer system. The card includes non-volatile solid-state memory (e.g., EEPROM 108 or Flash RAM) that can store a control program or application software. Col. 3, ll. 16-48.

Further, the PDAC may contain other non-volatile solid-state memory that contains software applications and user data. *See* col. 4, ll. 1-22.

The PDAC 100 (Fig. 2) can also operate as an external device connected to a host computer system via a USB interface. Col. 7, ll. 12-16.

³ Nor does Appellant appear to allege what might have been a practical memory capacity for portable, non-volatile solid-state memory at the time of invention. Appellant does allege that a version of the portable data storage device subsequent to the time of invention was marketed as a “Memory Key” (App. Br. 24), which presumably served as an alternative to a magnetic disc or CD.

Margalit

Margalit describes a USB plug device 10 (Fig. 1) comprising a printed circuit board (PCB) 25 having a CPU 30, RAM memory 60, firmware (e.g., flash) memory 50, and user data memory 70, which can also be flash memory. Col. 4, ll. 23-41. The USB device may plug directly into a host computer having a USB interface. Col. 5, ll. 28-30, l. 56 - col. 6, l. 19.

Jha

Jha teaches dividing flash memory into a plurality of zones (Fig. 4) to prevent inadvertent erasure or reprogramming of portions of the flash memory (col. 11, ll. 17-22).

PRINCIPLES OF LAW -- PRIOR ART

Claim Interpretation

The *claims* measure the invention. *See SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). During prosecution before the USPTO, claims are to be given their broadest reasonable interpretation, and the scope of a claim cannot be narrowed by reading disclosed limitations into the claim. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989); *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). Our reviewing court has repeatedly warned against confining the claims to specific embodiments described in the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).

“Giving claims their broadest reasonable construction ‘serves the public interest by reducing the possibility that claims, finally allowed, will

be given broader scope than is justified.”” *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984)). “An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.” *Zletz*, 893 F.2d at 322. “Construing claims broadly during prosecution is not unfair to the applicant . . . because the applicant has the opportunity to amend the claims to obtain more precise claim coverage.” *American Academy*, 367 F.3d at 1364.

Anticipation

“Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984).

For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. However, this is not an “ipsissimis verbis” test. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

Obviousness

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and

(3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007).

What matters is the object reach of the claim. If the claim extends to what is obvious, it is invalid under § 103. *KSR*, 550 U.S. at 419.

ANALYSIS -- PRIOR ART

We refer to the Examiner's findings set forth in the Final Rejection and the Answer. Our discussion will be limited to the points of contention raised by Appellant.

Based on Appellant's arguments in the Appeal Brief, we will decide the appeal with respect to the rejections over the prior art on the basis of claims 22, 25, and 29. *See* 37 C.F.R. § 41.37(c)(1)(vii).a

Claim 22 -- § 102 Miller

Appellant submits that the computer security key described by Miller does not have the capability to manage the flow of large amounts of data, and that the key lacks sufficient memory capacity to serve as a "mass storage device." Appellant also argues that because the Miller device can only store user data in the form of an encrypted password, the device cannot store data in its "original" condition as in the present invention.

Appellant's arguments are not commensurate with the scope of the invention that is claimed. Claim 22 does not contain the language "mass storage device." Nor does the claim recite limitations specific to managing

the flow of “large” amounts of data. Nor does the claim recite limitations with respect to the “condition” of data that may be stored in the non-volatile solid-state memory.

Claim 22 recites a non-volatile solid-state memory having sufficient capacity to enable the unitary portable data storage device to serve as an alternative to a magnetic disk or a CD. The claim also recites a memory controller “being coupled . . . in a manner to enable the unitary portable data storage device to serve as an alternative to a magnetic disk or CD.”

In view of what the claim actually requires, as discussed in the Written Description section *supra*, Appellant has not demonstrated any error in the Examiner’s finding that claim 22 is anticipated by Miller.

Claim 22 -- § 102 Gilbert

Appellant submits that Gilbert contains nothing to imply the use of an integrated USB plug to allow direct connection to the host computer. According to Appellant, Gilbert uses the word “plug” only in its verb form. Appellant also argues that Gilbert’s programmable hardware accelerator is not similar to a mass storage device. According to Appellant, Gilbert thus fails to teach a portable storage device capable of serving as an alternative to a magnetic disk or CD.

To the extent that Appellant’s remarks may be interpreted as an argument that Gilbert does not describe a USB plug integrated into a unitary portable storage device capable of direct connection of a USB socket on a computer, the reference provides more than adequate support for the Examiner’s finding to the contrary, at least at column 7, lines 12 through 30.

As with Appellant's remarks that attempt to distinguish Miller, the arguments in response to the rejection over Gilbert are not commensurate with the scope of the invention that is claimed, and therefore not persuasive of error in the Examiner's rejection.

Claim 25 -- § 103 over Miller and Kondo, over Gibert and Kondo

Appellant does not provide separate arguments in response to the § 103(a) rejection of claim 25 over Miller and Kondo, but relies on the (unpersuasive) arguments presented in response to the § 102 rejection against base claim 22 over Miller. Appellant does not submit arguments in response the § 103(a) rejection of claim 25 over Gilbert and Kondo.

We are therefore not persuaded of error in the Examiner's showing of prima facie obviousness of claim 25 over Miller and Kondo. Nor has Appellant shown error in the prima facie case of obviousness of claim 25 over Gilbert and Kondo.

Claim 29 -- § 103 over Margalit and Jha

Appellant contends that the device described by Margalit does not have enough memory to qualify as having sufficient capacity to enable the device to serve as an alternative to a magnetic disk or CD. Appellant also contends that the Margalit device was not designed to serve as an alternative to a magnetic disk or CD because it uses a "low speed" USB interface component. As support for the "capacity" and "speed" arguments, Appellant refers to paragraphs 20 through 22 of the Hyde Declaration. With respect to the combination of Margalit and Jha, Appellant contends that the

“small memory” described by Margalit would be inconsistent with the division of memory into a plurality of zones, as taught by Jha.

The Hyde Declaration at paragraph 21 speaks of “Smart Cards” having an inherently slow serial interface, and that “at the material time” the “upper storage limit” for Smart cards was “1 KiloByte.”

However, the declaration, at least in the section relied upon by Appellant, does not address the device described by Margalit. The invention described by the reference is not a Smart Card, but a USB plug device that is “analogous” to a memory smart card because it has data storage capabilities (col. 4, ll. 20-22), and which, in one embodiment (Fig. 2), may use components of a standard smart card device. However, Margalit distinguishes the invention from a “smart card” (e.g., col. 3, ll. 31-35; col. 5, ll. 28-31), which requires a card reader and, presumably, the unspecified “slow” serial interface mentioned in the Hyde Declaration. Margalit, in contrast, teaches using a USB interface.

Margalit discloses a particular USB interface controller (Fig. 3) that is, according to Appellant, a “low speed” (1.5 Mb/s) interface and therefore not designed to operate (also, according to Appellant) in a device serving as an alternative to a magnetic disk or CD. Appellant neglects, however, to address Margalit’s teaching of a “preferred embodiment” (col. 7, ll. 30 *et seq.*) that uses a high speed (12 Mb/s) USB interface suitable for transfer and storage of multimedia data (col. 10, ll. 31-37). Margalit thus discloses more than the example of a USB interface controller provided at Figure 3 (and more than depiction of a “non-standard” USB plug as alleged by Appellant in new arguments in the Reply Brief). In particular, the reference discloses the precise interface speed that Appellant argues as a requirement for a

device to serve as an alternative to a magnetic disk or CD (*see* Hyde Declaration ¶ 22).

With respect to Appellant's memory capacity argument -- even assuming that "capacity" of claim 22 is limited to storage capacity -- Margalit does not place a limitation on the storage capacity of the firmware memory 50 (Fig. 1) and the user data memory 70, each of which can comprise non-volatile solid-state (e.g., flash) memory. Margalit col. 4, ll. 23-42. Margalit also teaches that the plug device can store confidential medical information. *Id.* at col. 7, ll. 13-16. The reference thus discloses, or at the least suggests, a memory storage capacity sufficient to meet the (unspecified) amount of storage capacity asserted by Appellant. Further, the ordinary artisan would have understood that dividing the memory taught by Margalit into a plurality of zones (as taught by Jha) would have been particularly suited to isolating confidential information stored in the device from other confidential information stored in the device.

Appellant has thus not demonstrated error in the *prima facie* case of obviousness of claim 29 over Margalit and Jha.

Evidence of Secondary Considerations

We have not considered Appellant's proffered evidence of secondary considerations, which consists of statements made in two declarations, for two reasons.

First, the Evidence Appendix contains two declarations, which appear to refer to supporting documents, but not the referenced documents. *Cf.* 37 C.F.R. § 41.37(c)(1)(ix) ("*Evidence appendix*. An appendix containing copies of any evidence submitted pursuant to §§ 1.130, 1.131, or 1.132 of

this title or of any other evidence entered by the examiner and relied upon by appellant in the appeal, along with a statement setting forth where in the record that evidence was entered in the record by the examiner.”).

Second, and more important, Appellant’s burden is to establish that a connection or nexus exists between the offered evidence and the claimed invention. However, Appellant’s briefs do not allege what invention the evidence is submitted in support of. That is, Appellant does not specify what “the claimed invention” is asserted to be. The objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support. *Asyst Technologies, Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008) (citations omitted).

As such, and as the Examiner indicates, the evidence appears to be submitted in support of the asserted non-obviousness of the subject matter of the broadest claim (claim 22). However, claim 22 is, as demonstrated on this record, anticipated by the prior art. Any evidence of secondary considerations submitted to show alleged non-obviousness over the prior art would be irrelevant to patentability of the subject matter.⁴

Conclusion

We have considered all of Appellant’s arguments in response to the Examiner’s rejection over the prior art. Being not persuaded of error in the rejection of any claim on appeal, we sustain the rejection of each claim under 35 U.S.C. § 102 or 103.

⁴ Appellants’ allegations of Miller and Gilbert “teaching away” from the invention of claim 22 are also not relevant in a response to a finding of anticipation.

DECISION

The rejection of claims 22-29 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement is reversed.

The rejection of claims 22-24 and 26-28 under 35 U.S.C. § 102(e) as being anticipated by Miller is affirmed.

The rejection of claims 22-24 and 26-28 under 35 U.S.C. § 102(e) as being anticipated by Gilbert is affirmed.

The rejection of claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Miller and Kondo is affirmed.

The rejection of claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Gilbert and Kondo is affirmed.

The rejection of claims 29 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Margalit and Jha is affirmed.

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner's decision to reject claims 22-30 is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED

msc
WHITE & CASE LLP
PATENT DEPARTMENT
1155 AVENUE OF THE AMERICAS
NEW YORK NY 10036